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Dissertation on necrosis

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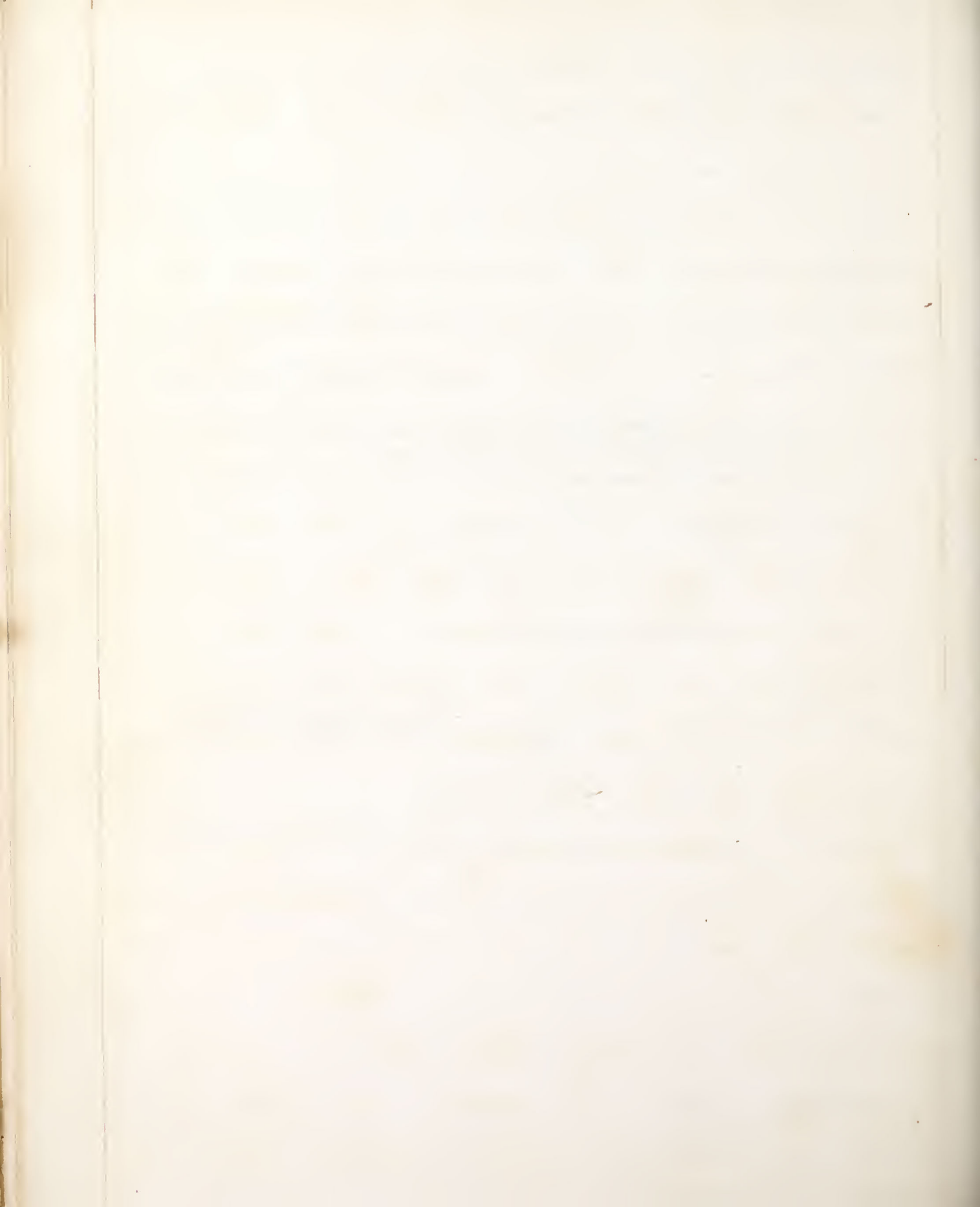
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Dissertations
read by the
Candidates for Degrees and Licenses,
at the
Annual Examination,
in the
Medical Institution of Yale College,
January 20, 21 & 22,
1847.

IV.

Dissertation
on
Necrosis.

By
William Rufus Blakeman,
of Fairfield,
Candidate for the Degree of Doctor in Medicine.



Necrosis

Necrosis, ^{or} in the more common language fever sore is applied to inflammation of the bones terminating in the death of the part affected. This is a disease which has long been known to the world, although by the ancients it was confounded with caries. Between these two diseases at the present day there is considered to be a vast difference. For in necrosis the vitality of the bone is entirely lost and the dead portions are thrown off as are the soft parts in mortification. But in caries the vitality is not lost but impaired so that the process of ulceration proceeds in a similar manner as it does in the soft part.

Necrosis is a disease affecting children and adults more commonly than persons of advanced age although no period of life is exempt from it. The age which we find it most common is from ten to eighteen. The parts usually affected with this disease are the long and cylindrical bones rather than the

flat and spongy although every bone in the body is liable to be affected with it. When a bone becomes affected by necrosis the disease is usually found located in the shaft rarely extending farther than the epiphyseis of the bone this is probably owing to the head of the bone being formed from a separate point of ossification.

The causes which produce necroses belong to the classes which produce mortification in the soft parts. they may be either of two classes internal or constitutional and external. of the former class are the low grades of fever small pox measles venereal disease scrofula and scurvy all of which are said at times to produce the disease of the latter class are injuries of any kind contusions lacerations caustics and what is a more common cause than rest is the sudden exposure to cold and moisture when the body is heated above its natural temperature.

The inflammation proceeds an attack of

necrosis may be either acute or chronic; if chronic the symptoms are of a milder character and the surface of the bone is only affected causing small sequestra of it to be exfoliated. but if the inflammation be acute the symptoms will be more violent and both the internal and external periosteum become involved terminating in a deposit of purulent matter between them and the bone. thus the bone being deprived of its ~~mineral~~ ^{vascular} ~~element~~ becomes thrown off from the living parts the part thus thrown off is called the sequestrum

When a bone is about to be attacked with necrosis the first symptoms which appear are excessive pain referred usually to the neighbouring joint this symptom occurs in few hours after exposure after suffering these pains for several hours constitutional symptoms of a violent kind come on they are of an inflammatory type. the pulse is full hard and irritable the tongue is coated with a white fur there is great restlessness, agitation and sometimes delirium.

At first there is observed no tumefaction in the affected part but an increase of heat and throbbing pain. but if the part be examined after two or three days from the appearance of the symptoms it will be found slightly tender and tumid to the touch

These more violent symptoms remain until about the twelfth day when they begin to abate, if the part is examined at this time there may be perceived an obscure sense of fluctuation. if an incision be made there will be found to be discharged an imperfect formed pus. after the formation of the pus the patient is left in a very comfortable state with the exception of fistulous openings which continue to discharge pus and at times pieces of bone this state of things continue until the dead portions of bone is discharged and the openings heal up.

To form a correct diagnosis of necrosis will be found to be difficult in the forming stage as there are many diseases which commence with

like symptoms. the disease with which it is most apt to be confounded is rheumatism. from this it may be distinguished by the pulse. in nerosis the pulse is full hard and irregular while in rheumatism it is full frequent and easily compressed. inflammation in nerosis is found usually slower in its progress more deeply seated and the attendant symptoms severer. the skin retains its colour for a long time but finally becomes lived. the swelling involves the bone and when pus is formed it is deeply seated and a long time in working its way to the surface. After the opening of the abscess, nerosis may be determined by an examination of the bone. if it be found rough and denuded of its periosteum we may infer that all such portions of the bone are diseased. It is also of importance to determine the extent of the disease whether it involve the whole bone or only the superficial part. of this we may judge from the extent and severity of the inflammation if it is of a mild

character we should infer that the disease had extended to the superficial parts of the bone. But where it was more violent we should judge the injury of a more serious nature.

The prognosis in a case of necrosis is generally favourable where it arises in a person of a good constitution involving no bones in the neighbourhood of important parts and where it arises from some injury; on the other hand it is doubtful when it is complicated with other disorders and occurring in persons of a weak and broken down constitution when it arises from some unknown cause, and especially when the articulations are involved.

Treatment in the first stages of necrosis should be to promote resolution although we can have but slender hope of so favourable a termination. To affect this anti-phlogistic means should be employed both locally and general. The first among these so recommending, this should be employed when the Putrid Althorin out case should be

employed not to reduce the system to much in
the commencement as it is a disease of long dur-
ation cathartics, ~~may~~ useful in connection with
bloodletting, of the active saline ones or
calomel in large doses may be administered
diaphoretics of antimony & ipecac may be given
to determine to the surface after free evacuation
have been obtained opium may be given
to relieve the pain. to the affected part
leeches or cups may be employed after
their counter irritation by means of
blisters should be made over the part
If after these means have been employed
the disease is found to progress emollient
pottices may be applied and suppuration
hastened as much as possible. at this stage
of the disease it was recommended by Dr Smith
(formally of the Institution), to make free
incisions down to the bone and also
to perforate the bone with a trephine or common
gimblet. If there is reason to suppose the
internal periosteum involved this allows

the matter to be discharged as soon as formed which would otherwise be a long time in working its way to the surface. it also relieves the ~~for~~ skin from distention and allows the ~~pus~~ ^{pus} to swell which otherwise being bound down ^{would} cause great pain. After these means have been employed the surgeon has accomplished all that is in his power until the exfoliation of the dead bone, at which time it may become necessary to assist nature in her endeavours to throw off the dead portion. This may sometimes be done by removing the portion with the forceps where it lies loose in the part and the orifices of the ulcers are sufficiently large to admit of its passage. At other times it becomes necessary to make large incisions and where the sequestrum is inclosed in a case from the formation of new bone around it to cut away the bone or break up the sequestrum. this is done by making an incision to the bone and enlarging the openings in the new bone with

There are usually some leading to the old bone so that it may be extracted or the old bone may be broken up in pieces and extracted this may be done with ~~the~~ saw or the knife or as is sometimes employed the gouge and mallet. After the dead portions of bone are removed the ulcers heal kindly.

If necrosis arises from constitutional causes such as the venereal ~~disease~~ scrofula or pueroy the medicines calculated to cure these diseases should be administered before any favourable change can be expected in the state of the diseased bones.

Wm. P. W. W.

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